

**Technical Program: Monday, July 26: 10:00 AM – 12:00 PM**

Time	Room: Ballroom A <b>Computational Methods</b>	Room: Ballroom B <b>Probabilistic Life-Cycle Performance Assessment, Maintenance &amp; Management of Aging Infrastructures</b>	Room: Ballroom C <b>Probabilistic Methodology and Applications in Aerospace Engineering</b>	Room: Ballroom F <b>Probabilistic Representation of Input and System Properties</b>
24 Min. Talks (* Speaker)	<p align="center"><b>Session I</b></p> <p align="center">Session Chairs: Bergman, L., Johnson, E.</p>	<p align="center"><b>Session I</b></p> <p align="center">Session Chairs: Frangopol, D., Corotis, R.</p>	<p align="center"><b>Session I</b></p> <p align="center">Session Chairs: Zhao, Z., Wu, J.</p>	<p align="center">Session Chairs: Field, R., Grigoriu, M.</p>
10:00	<p>A Multi-Scale Finite Element Algorithm for Solution of the Fokker-Planck Equation</p> <p align="center">Masud, A., Bergman, L.*</p>	<p>Risk-Informed Condition Assessment of Aging Civil Infrastructure: Research Issues</p> <p align="center">Ellingwood, B.*</p>	<p>Fatigue Damage Modeling of Composite Laminates</p> <p align="center">Liu, Y.*, Mahadevan, S.</p>	<p>A Novel Approach for Simulation of Non-Gaussian Processes</p> <p align="center">Shi, Y.*, Deodatis, G., Koutsourelakis, S.</p>
10:24	<p>Solution of Fokker Planck Equations Using Statistical Mixtures</p> <p align="center">Wojtkiewicz, S.*</p>	<p>Probabilistic Maintenance Prioritization for Deteriorating Bridges Using a Multiobjective Genetic Algorithm</p> <p align="center">Liu, M.*, Frangopol, D.</p>	<p>Advanced Probabilistic Analysis Methods for Calculating the Reliability of a Carbon-Carbon Shell for the Earth Entry Vehicle</p> <p align="center">Kurth, R.*, Brust, F.</p>	<p>A Decision-Theoretic Approach to Model Selection for Spacecraft Re-entry Environments</p> <p align="center">Field, Jr., R.*, Grigoriu, M.</p>
10:48	<p>FPKtool: a GUI for Solving FPK Equations for SDOF Systems</p> <p align="center">Fu, T.*, Johnson, E.A., Wojtkiewicz, S.</p>	<p>A Multi-Level Probability-Based Assessment Procedure for Bridge Management</p> <p align="center">Zandonini, R.*, Zonta, D., Bortot, F.</p>	<p>Stochastic Fatigue Analysis and Life Prediction for Composite Structures</p> <p align="center">Zhao, Z.*, Schaff, J. R., Lin, S.</p>	<p>Model Selection Methods for Parametric Dynamic Models</p> <p align="center">Huang, S., Mahadevan, S.*</p>
11:12	<p>A Neural Network Approach for Representing Realizations of Random Processes</p> <p align="center">Beer, M.*, Spanos, P. D.</p>	<p>Reliability Analysis and Rehabilitation of Cable-Stayed Bridges with Damaged Pylons</p> <p align="center">Biondini, F.*, Frangopol, D., Malerba, P.</p>	<p>Probabilistic Failure Prediction of Filament-Wound Glass-Fiber Reinforced Composite Tubes Under Biaxial Loading</p> <p align="center">Srinivasan, S.*, Bhattacharya, B.</p>	<p>Treatment of Model Uncertainty in Model Calibration</p> <p align="center">Swiler, L.*, Trucano, T.</p>
11:36	<p>A Generalized Dimension-Reduction Method for Multi-Dimensional Integration in Stochastic Mechanics</p> <p align="center">Xu, H.*, Rahman, S.</p>			<p>Spatial Statistics Models for Stochastic Inverse Problems in Heat Conduction</p> <p align="center">Wang, J.*, Zabararas, N.</p>

**Technical Program: Monday, July 26: 10:00 AM – 12:00 AM**

Time	Room: Ballroom G <b>Uncertainty Quantification</b>	Room: Ballroom H <b>Uncertainty and Reliability in Geomechanics</b>  <b>Session I</b>	Room: Turquoise	
24 Min. Talks  (* Speaker)	Session Chairs: Kareem, A., Paez, T.	Session Chairs: Phoon, K., Rechenmacher, A.		
10:00	Uncertainty Quantification Using Measured Vibration Data  Fonseca, J.* , Friswell, M.	Stochastic Approach to Manage the Variability from in Situ Data  Cherubini, C., Vessia, G.*		
10:24	Improved Methodology for Generation of Analytical Fragility Curves for Highway Bridges  Nielson, B., DesRoches, R.*	Estimating Sample Autocorrelation Functions Using Bootstrap  Phoon, K.* , Fenton, G.		
10:48	Generation of Nonstationary Random Excitations with a Specified Tolerance Limit  Paez, T.* , Morrison, D.	Calibration of Soil Constitutive Models with Heterogeneous Parameters  Rechenmacher, A. * , Ghanem, R., Medina-Cetina, Z.		
11:12	Uncertainty Quantification of an Atmospheric Corrosion Model  Sun, A.* , Moffat, H.	Assessment of Weak Stationarity Using Normalized Cone Tip Resistance  Uzielli, M. , Vannucchi, G., Phoon, K.*		
11:36	Modeling of Non-Stationary Winds in Gust-Fronts  Wang, L.* , Kareem, A.	Characterization of Natural Variability of Hydraulic Properties of Soils  Limin, Z.* , Qun, C., Zhang, L.		

**Technical Program: Monday, July 28: 1:00 – 3:00 PM**

Time	Room: Ballroom A <b>Computational Methods</b>	Room: Ballroom B <b>Probabilistic Life-Cycle Performance Assessment, Maintenance and Management of Aging Infrastructures</b>	Room: Ballroom C <b>Probabilistic Methodology and Applications in Aerospace Engineering:</b>	Room: Ballroom F <b>Optimization Under Uncertainty</b>
24 Min. Talks (* Speaker)	<b>Session 2</b>  Session Chairs: Johnson, E., Bergman, L.	<b>Session 2</b>  Session Chairs: Frangopol, D., Ellingwood, B.	<b>Session 2</b>  Session Chairs: Zhao, Z., Kurth, R.	<b>Session I</b>  Session Chairs: Mahadevan, S., Eldred, M.
1:00	Ensemble Uncertainty Quantification  Wojtkiewicz, S.*	Modeling of Risk-Based Inspection, Maintenance and Life-Cycle Cost with Partially Observable Markov Decision Processes  Corotis, R.*, Ellis, J. H., Jiang, M.	An Efficient Simulation-Based Method for Probabilistic Damage Tolerance Analysis with Maintenance Planning  Shiao, M., Wu, J.*	Computational Efficiency in Reliability-Based Optimization  Zou, T., Mahadevan, S.*
1:24	Stochastic Conditioner for Accelerating Convergence of Monte Carlo Simulations  Desceliers, C. *, Ghanem, R., Soize, C.	Bayesian Reliability Updating Using System Identification Based on Selective Sensitivity  Bucher, C.*	Application of a Microstructure-Based Fatigue Crack Growth Model to Probabilistic Life Prediction  Enright, M.*, Chan, K., Kong, J.	Durability Based Robust Design Optimization for Fabricated Structures  Kim, Y.*, Kyuba, H., Vik, T., Organ, D., Hurt, W.
1:48	Exact Expressions for the Variability Response Function of Stochastic Structural Systems and Corresponding Upper Bounds on Response Variability  Papadopoulos, V., Deodatis, G.*, Papadrakakis, M.	On Reliability Assessment of Deteriorating Structural Systems Via Improved Monte Carlo Simulation  Augusti, G.*, Ciampoli, M., Majorana, C.	Assessment of Modeling Uncertainties for Reinforced-Carbon-Carbon Debris Impacts  Lyle, K.*, Fasanella, E.	An Efficient Reliability-Based Design Optimization Method Using a Single-Loop Approach  Liang, J., Mourelatos, Z.*, Tu, J., Mahadevan, S.
2:12	Simulation of Non-Stationary Random Processes: A Wavelet and Hilbert Transforms Perspective  Wang, L. *, Kareem, A.	Performance-Based Optimal Design of Structures  Higuchi, S.*, Bucher, C.	Application of a Conditional Expectation Response Surface Approach to Probabilistic Fatigue  Momin, F., Millwater, H.*, Osborn, W., Enright, M.	A Most Probable Point-Based Method for Reliability Analysis, Sensitivity Analysis, and Design Optimization  Hou, G. *, Gumbert, C., Newman, P.
2:36	Simulation of Non-Gaussian Stochastic Vector Processes  Chen, Y. *, Deodatis, G.	Performance-Based Design of Base Isolation Systems Using Inverse-Form  van de Lindt, J. *, Drewek, M.	Artificial Neural Network Approach for Structural Reliability Analysis  Deng, J. *, Gu, D.	

**Technical Program: Monday, July 28: 1:00 – 3:00 PM**

Time 24 Min. Talks  (* Speaker)	Room: Ballroom G  <b>Stochastic Modeling in Aerodynamics and Aeroelastic/Hydroelastic Interaction</b>  Session Chairs: Sarkar, A., Kijewski-Correa, T.	Room: Ballroom H  <b>Uncertainty and Reliability in Geomechanics</b>  <b>Session 2</b>  Session Chairs: Phoon, K., Rechenmacher, A.	Room: Turquoise  <b>Statistical Structural Health Monitoring</b>  Session Chairs: Noori, M., Graham Brady, L.	
1:00	On Estimation of Empirical Orthogonal Modes in Inflow Turbulence for Wind Turbines  Saranyasontorn, K.*, Manuel, L.	Probabilistic Models for the Assessment of Post Cyclic Soil Deformations  Cetin, K. O.*, Unutmaz, B.	A Statistical Pattern Recognition Paradigm for Structural Health Monitoring  Farrar, C.*, Sohn, H., Park, G.	
1:24	Employing Sensitivity Derivatives to Estimate Uncertainty Propagation in CFD  Putko, M.*, Newman, P., Taylor, A.	Model Uncertainty of a CPT-Based Simplified Method for Liquefaction Triggering Analysis  Juang, C.*Yang, S.	Stochastic Evaluation of Bridge Control with Side Wings  Hurtado, J.*, Alvarez, D.	
1:48	Variational Multiscale Stabilized FEM Formulations for Stochastic Advection-Diffusion Equations  Badrinarayanan, V.*, Zabarar, N.	Seismic Liquefaction of 3D Randomly Variable Soils  Popescu, R.*, Prevost, J. H., Deodatis, G.	Preliminary Study of a Bayesian Probabilistic System Identification Approach for Structural Health Management  Cao, Y.*, Noori, M., Saadat, S., Hou, Z., Buckner, G., Masuda, A.	
2:12	Multivariate Stochastic Simulation of Wind Pressure Over Low-Rise Structures  Masters, F.*, Gurley, K.	Probabilistic Slope Stability Under Seismic Loading  Rahhal, M. E.*, Ghosn, R.	Bayesian Inference Applied to Structural Model Updating and Damage Detection  Papadimitriou, C.*	
2:36	A Nonlinear Discrete Model for Wind-Excited Suspended Cables  Carassale, L.*, Piccardo, G.	Quantification of Uncertainty Using Power Laws - A Geotechnical Perspective  Rucker, M.*	Bayesian Analysis of the Phase II IASC-ASCE Structural Health Monitoring Experimental Benchmark Data  Ching, J.*, Beck, J.	

**Technical Program: Monday, July 26: 3:30 – 5:30 PM**

Time  24 Min. Talks  (* Speaker)	Room: Ballroom A  <b>Simulation &amp; Dynamic Reliability</b>  Session Chairs: Beck, J., Katafygiotis, L.	Room: Ballroom B  <b>Epistemic Uncertainty</b>  Session Chairs: Red-Horse, J., Tempone, R.	Room: Ballroom C  <b>Modeling Uncertainties in Wind Load Effects on Buildings</b>  Session Chair: Diniz, S., Gurley, K.	Room: Ballroom F  <b>Optimization Under Uncertainty</b>  <b>Session 2</b>  Session Chairs: Mahadevan, S., Giunta, A.
3:30	Reliability Estimation for Dynamical Systems Subject to Stochastic Excitation Using Subset Simulation with Splitting  Ching, J.*, Au, S., Beck, J.	Distribution-Free Uncertainty Quantification  Wojtkiewicz, S.*	Gust Factors Observed in Tropical Cyclones Isabel, Lili, Isidore Gabrielle and Irene During the 1999-2003 Atlantic Hurricane Seasons  Masters, F.*, Aponte, L., Gurley, K., Reinhold, T.	Stochastic Parameterization of Random Shapes in Inverse Acoustic Scattering  Faverjon, B.*, Ghanem, R.
3:54	Methods of Analysis for Large Nonlinear Systems Subjected to Stochastic Excitation  Schuëller, G. I.*	The Notion of Independence when Probabilities are Imprecise  Tucker, W., Ferson, S.*, Oberkampf, W.	Application of Standardized Data Management Protocols for Wind Loading on Low-Rise Buildings  Lim, J.*, Ho, T., Morrish, D., Endo, M., Bienkiewicz, B.	Efficient Shape Optimization Technique Using Stochastic Response Surfaces and Local Sensitivities  Kim, N.*, Wang, H., Queipo, N.
4:18	An Importance Sampling Procedure for Estimating Failure Probabilities of Dynamic Systems  Ivanova, A., Naess, A.*	Free Vibration of Structures with Interval Uncertainty  Modares, M.*, Mullen, R.	Building Orientation and Wind Effects Estimation  Hanzlik, P., Diniz, S.*, Grazini, A., Simiu, E.	An Efficient Methodology for the Optimization of Structures under Stochastic Loading  Jensen, H.*
4:42	Auxiliary Domain Method for Solving Nonlinear Reliability Problems  Katafygiotis, L.*, Cheung, S. H.	Efficient Calculation of CDF and Reliability Bounds Using Random Set Theory  Tonon, F.*	Probabilistic Performance Criteria for Tall Buildings Subjected to Wind  Diniz, S.*, Iancovici, M., Riley, M., Simiu, E.	Life-Cycle Cost Analysis Under Uncertainty  Furuta, H.*, Kameda, T., Frangopol, D.
5:06	Nonlinear Finite Element Response Sensitivity Analysis of Steel-Concrete Composite Beams  Barbato, M., Zona, A.*, Conte, J.	Reducing the Variation Bounds of Engineering Failure Risk Predictions: A Perspective on Modeling Uncertainty Problem  Ghiocel, D. M.*	A Probabilistic Model of Damage to Residential Structures from Hurricane Winds  Cope, A., Pinelli, J., Gurley, K.*, Murphree, J., Simiu, E., Gulatis, S., Hamid, S.	Employing Sensitivity Derivatives for Robust Optimization Under Uncertainty in CFD  Putko, M.*, Newman, P., Taylor, A.

**Technical Program: Monday, July 26: 3:30 – 5:30 PM**

Time 24 Min. Talks (* Speaker)	Room: Ballroom G	Room: Ballroom H <b>Uncertainty and Reliability in Geomechanics</b>  <b>Session 3</b>  Session Chairs: Phoon, K., Rechenmacher, A.	Room: Turquoise <b>Structural Control, Health Monitoring, and System Identification</b>  Session Chairs: Buckner, G., Saadat, S.	
3:30		Probabilistic Modeling of Landslide Reactivation by Embankment Load  Bourdeau, P. L.*	LMI Model Reduction for Modeling and Control of Structures  Lee, Y., Johnson, E. A.*	
3:54		Reliability Theory in Slope Stability Analysis  Rahhal, M. E. *, Sherfane, J., Rached, Z.	Theoretical and Experimental Investigations of Damage Assessment of Beams  Vo, P. H. *, Haldar, A.	
4:18		Reliability Models for Bridge Substructures  Szwed, A., Nowak, A. S. *, Withiam, J. L.	Improvements in Structural Parameter Identification for SHM Using VSDDS  Elmasry, M. I. *, Au, A., Johnson, E. A.	
4:42		Tower Structures on Liquefiable Soil Excited by Random Seismic Input  Popescu, R. *, Chakraborty, P.	Defect Detection at Local Level Using Sub-Structure Model with Unknown Input Excitation  Katkhuda, H. *, Haldar, A.	
5:06			Defect Identification and Structural Health Assessment Technique - Experimental Verification  Flores, R. *, Haldar, A.	

**Technical Program: Tuesday, July 27: 10:00 AM – 12:00 PM**

Time	Room: Ballroom A <b>Computational Stochastic Dynamics</b>  <b>Session I</b>  Session Chairs: Schueller, G., Papadimitriou, C.	Room: Ballroom B <b>Reliability of Wood Structures</b>  Session Chairs: Ghanem, R., Sørensen, J. D.	Room: Ballroom C <b>Reliability of Marine Structures</b>  Session Chairs: Zhao, Z., Ditlevsen, O.	Room: Ballroom F
24 Min. Talks  (* Speaker)	Response of Dynamical Systems Through Solution of Moment Equations Using Mixtures  Wojtkiewicz, S.*	Load Bearing Capacity of Timber Roof Trusses  Sørensen, J. D.*, Damkilde, L., Munch-Andersen, J.	Bayesian Estimation of Parameters Using Simultaneously Monitored Processes  Friis-Hansen, P.*, Ditlevsen, O.	
10:00	Time-Frequency Characterization of Nonlinear Dynamical Systems  Kijewski-Correa, T.*, Kareem, A.	Simplified Application of the FEMA 351 Probabilistic Seismic Performance Evaluation Guidelines to a Woodframe Building  Luco, N.*	Probabilistic Barge Impact Analysis  Patev, R.*	
10:24	Implicit Modeling of the Power Spectral Density of the Response of a Class of Nonlinear Oscillators  Yang, B.*, Mignolet, M.	Estimating Structural Reliability Under Hurricane Hazard: Applications to Wood Structures  Rajagopalan, B.*, Ou, E., Corotis, R., Frangopol, D.	Modifying Reliability Based Design to Include Durability  Post, N., Lesko, J.*, Case, S., Hess, P.	
10:48	A Conditional Path Integration Method and its Use in Nonlinear Stochastic Dynamics  Naess, A.*, Mo, E.	Reliability of Low-Rise Wood Construction Against Hurricane Winds  Li, Y.*, Ellingwood, B.	On-Line Nondestructive Inspection for Fatigue Reliability Assessment and Updating for Pressure Vessels  Haldar, A.*, Chen, G.	
11:12	Random Vibration Analysis of Hysteretic Structures by FORM  Fujimura, K.*, Der Kiureghian, A.			
11:36				

**Technical Program: Tuesday, July 27: 10:00 AM – 12:00 PM**

Time 24 Min. Talks (* Speaker)	Room: Ballroom G <b>Model Validation and Uncertainty Quantification</b>  <b>Session I</b>  Session Chairs: Huysse, L., Thacker, B.	Room: Ballroom H <b>Probabilistic Material Characterization and Analysis</b>  <b>Session I</b>  Session Chairs: Raphael, W., Arwade, S.	Room: Turquoise	
10:00	Accounting for Uncertain Model and Analysis Errors in Nonlinear Finite Element Reliability Analysis  Bebamzadeh, A. *, Haukaas, T.	Stochastic Effects in Complex Construction Materials with Cracks  Augusti, G. *, Giofrè, M., Stazi, L., Mariano, P.		
10:24	Error Budgets and Estimation in Probabilistic Predictive Models  Ghanem, R., Doostan, A. *	The Influence of Uncertainty in Crack or Slip Plane Orientations on Cracking or Localization Probabilities  Brannon, R.*		
10:48	Comments on the Formulation of Polynomial Chaos Problems  Walters, R. W.*	Probabilistic Study of Chloride-Induced Corrosion of Carbon Steel in Concrete Structures  Lounis, Z. *, Zhang, J., Daigle, L.		
11:12	Computation of Upper and Lower Bounds in Limit Analysis Using Second-Order Cone Programming and Mesh Adaptivity  Ciria, H. *, Peraire, J.	Reliability-Based Sensitivity Analysis for R/C Columns Resistance  Szerszen, M. M. *, Nowak, A. S., Szwed, A.		
11:36	Multivariate Model Validation Using PCA and Similarity Factors  Huang, S. *, Mahadevan, S.	Information-Based Formulation for Bayesian Updating of the Calculation of Concrete Modulus of Elasticity  Raphael, W. *, Mohamed, A., Kaddah, F., Geara, F., Favre, J.		

<b>Technical Program: Tuesday, July 27: 1:00 – 3:00 PM</b>				
<b>Time</b>	<b>Room: Ballroom A</b>	<b>Room: Ballroom B</b>	<b>Room: Ballroom C</b>	<b>Room: Ballroom F</b>
24 Min. Talks (* Speaker)	<b>Computational Stochastic Dynamics</b>  <b>Session 2</b>  Session Chairs: Schueller, G. Grigoriu, M.	<b>Structural Reliability</b>   Session Chairs: Halдар, A., Augusti, G.	<b>Earthquake Engineering</b>   <b>Session I</b>  Session Chairs: Spanos, P., Deodatis, G.	<b>Stochastic Optimization in Engineering Design</b>   <b>Session I</b>  Session Chairs: Royset, J., Swiler, L.
1:00	Robust Reliability-Based Optimization in Structural Dynamics Using Evolutionary Algorithms  Papadimitriou, C.*, Ntotsios, E.	Solving the Multi-Dimensional Convolution Integral for System Reliability  Adduri, P.*, Penmetsa, R., Grandhi, R.	Loss Exceedance Curves for a Portfolio of Structures Due to Earthquakes  Deodatis, G.*, Kunreuther, H., Pressman, E., Smyth, A.	Decoupled Methodology for Probabilistic Design Optimization  Agarwal, H.*, Renaud, J.
1:24	Real-Time Bayesian State Estimation of Uncertain Dynamical Systems  Ching, J.*, Beck, J.	Structural-Reliability-Based Analysis of Large and/or Complex Systems  Menun, C.*	Effect of Phase Spectrum Uncertainty on Earthquake Motion  Sato, T.*, Murono, Y., Kawanishi, T.	Reliability-Based Optimal Design in Opensees  Liang, H.*, Haukaas, T., Royset, J. O.
1:48	Simulation of Strongly Non-Gaussian Processes Using Karhunen-Loeve Expansion  Phoon, K.*, Huang, H., Quek, S.	Risk-Based Condition Assessment and Maintenance Engineering for Aging Aircraft Structure Components  Ghiocel, D. M. *, Wang, L.	Application of Stochastic Characteristics of Phase Spectrum to Random Vibration Analysis of SDOF System  Murono, Y.*, Sato, T.	An rSQP Approach for a Single-Level Reliability Optimization  Perez, V.*, Eldred, M., Renaud, J.
2:12	Estimation of First Excursion Probability of Nonlinear Dynamic System by Importance Sampling Technique  Maruyama, O.*, Hoshiya, M.	Structural Risk Calibration  Corotis, R.*	Generation of Uniform Hazard Ground Motions Using Hilbert Huang Transform  Gu, P.*, Wen, Y. K.	Reliability-Based Design Optimization of Structural Systems  Royset, J.*, Polak, E.
2:36	Forced Response of Composite Panels with Random Material Properties with Random Loading  Singh, B.*, Yadav, D.	Reliability Analysis for Human's Comfort  Laier, J.*, Venturini, W., Mohamed, A., Lemaire, M.	Macro-Spatial Correlation Structure of Seismic Ground Motions of the 1999 Chi-Chi Earthquake  Takada, T.*, Shimomura, T.	Reliability-Oriented Optimization Under Combined Loading  Streicher, H.*, Rackwitz, R.

<b>Technical Program: Tuesday, July 27: 1:00 – 3:00 PM</b>				
<b>Time</b>	<b>Room: Ballroom G</b>	<b>Room: Ballroom H</b>	<b>Room: Turquoise</b>	
<b>24 Min. Talks</b> (* Speaker)	<b>Model Validation and Uncertainty Quantification</b>	<b>Probabilistic Material Characterization and Analysis</b>	<b>Generalized Models of Uncertainty for Engineering Mechanics</b>	
	<b>Session 2</b>	<b>Session 2</b>	<b>Session I</b>	
	Session Chairs: Thacker, B., Urbina, A.	Session Chair: Raphael, W., Bhattacharya, B.	Session Chairs: Beer, M., Mullen, R.	
<b>1:00</b>	The Computation of Bounds for Energy Release Rates in Fracture Mechanics  Xuan, Z., Pares, N.*, Peraire, J.	Percolation Theory Approach to Quantify Geo-Material Density-Modulus Relationships  Rucker, M.*	A Probabilistic Approach to Uncertainty Quantification with Limited Information  Red-Horse, J.*, Benjamin, A.	
<b>1:24</b>	Bayesian Validation of Statistical Models  Rebba, R.*, Mahadevan, S.	A Dynamical SFE Method in the Frequency Domain  Falsone, G.*, Ferro, G.	Structural Reliability Application of Correlation in Random-Set Valued Variables  Tonon, F.*, Pettit, C.	
<b>1:48</b>	Model Parameter Updating Using Bayesian Networks  Tremi, C.*, Ross, T.	Atomistic Simulation for Studying the Asymptotic Behavior of Ultimate Strength of Carbon Nanotubes with Randomly Occurring Defects  Bhattacharya, B.*, Lu, Q.	Time Series Analysis with Non-Precise Data – Part I  Hareter, D.*	
<b>2:12</b>	Quantifying Total Uncertainty Using Different Mathematical Theories in a Validation Assessment  Booker, J.*, Ross, T., Hemez, F., Anderson, M., Reardon, B., Joslyn, C.	Probabilistic Fatigue Life Estimation of Seeded UDIMET 720 Superalloy Specimens  Ghosn, M.*, Telesman, J., Bonacuse, P., Barrie, R., Ghosn, L., Kantzos, P.	Time Series Analysis with Non-Precise Data – Part II  Hareter, D.*	
<b>2:36</b>	Performance-Optimal and Uncertainty-Robust Decisions of the Los Alamos Project-Y  Hemez, F.*	Application of Probabilistics Models for the Quantification of the Fatigue Crack Growth  Ferreira, J., Andalo, J.*	Sample-Induced Simulation of Fuzzy Randomness  Beer, M.*	

<b>Technical Program: Tuesday, July 27: 3:30 – 5:30 PM</b>				
<b>Time</b>	<b>Room: Ballroom A</b>	<b>Room: Ballroom B</b>	<b>Room: Ballroom C</b>	<b>Room: Ballroom F</b>
24 Min. Talks (* Speaker)	<b>Computational Methods in Reliability Analysis</b>  Session Chairs: Eldred, M., Riha, D.	<b>Mechanics of Random Media</b>  Session Chairs: Graham Brady, L., Arwade, S.	<b>Earthquake Engineering</b>  <b>Session 2</b>  Session Chairs: Conte, J., Smyth, A.	<b>Stochastic Optimization in Engineering Design</b>  <b>Session 2</b>  Session Chairs: Royset, J., Trucano, T.
3:30	Investigation of Reliability Method Formulations in DAKOTA/UQ  Eldred, M.*, Agarwal, H., Perez, V., Wojtkiewicz, S., Renaud, J.	Simulation of Random Heterogeneous Materials  Koutsourelakis, P.*	Time-Frequency Localization in Stochastic Seismic Models Via Time-Frequency Atoms  Spanos, P.*, Politis, N., Thomaidis, P.	Structural Optimization Using Inductive Identification Trees  Igusa, T.*, Liu, H.
3:54	Robust Most Probable Point Search Algorithm for Difficult Performance Functions  Riha, D.*, Thacker, B., Kong, J., Huyse, L.	Analysis of Material Property Fields for Heterogeneous Materials  Baxter, S.*, McNeill, S., Graham Brady, L.	Seismic Fragility Analysis  Kafali, C.*, Grigoriu, M.	Identification of Critical Components and Cutsets Using Linear Programming Bounds on System Reliability  Song, J.*, Der Kiureghian, A.
4:18	Moment-Based Stochastic and Dimension-Reduction Methods for Structural Reliability Analysis  Rahman, S.*, Xu, H.	Nonlocal Modeling of Heterogenous Multiscale Systems  Shi, J.*, Ghanem, R.	Fragility of Steel Moment Frames with Novel Beam-To-Column Connections Utilizing Shape Memory Alloys  Taftali, B.*, Ellingwood, B. R., DesRoches, R.	Time-Variant Reliability Analysis Using a Direct Search Optimization Method  Joanni, A. E.*, Rackwitz, R.
4:42	Reliability Analysis In High Dimensions  Adhikari, S.*	A Stochastic Micromechanical Model for the Behavior of Heterogeneous Materials  Williams, T.*	Estimation of Fragility Curve by Using Limit Seismic Intensity and Markov Chain Monte Carlo  Yoshida, I.*, Sato, T.	Seismic Disgn Optimization Using LCC-Based Risk Index  Takahashi, Y.*
5:06	Linkage Genetic Algorithm for Reliability Analysis of Structural Systems  Wang, J., Ghosn, M.*	Translation Vectors with Non-Identically Distributed Components: Application to Heterogeneous Materials  Arwade, S.*	A Probabilistic Evaluation of the Seismic Response of a City  Lombaert, G.*, Clouteau, D.	

**Technical Program: Tuesday, July 27: 3:30 – 5:30 PM**

<p>Time</p> <p>24 Min. Talks</p> <p>(* Speaker)</p>	<p>Room: Ballroom G</p> <p><b>Model Validation and Uncertainty Quantification</b></p> <p><b>Session 3</b></p> <p>Session Chairs: Huyse, L., Paez, T.</p>	<p>Room: Ballroom H</p>	<p>Room: Turquoise</p> <p><b>Generalized Models of Uncertainty for Engineering Mechanics</b></p> <p><b>Session 2</b></p> <p>Session Chair: Beer, M., Tonon, F.</p>	
<p>3:30</p>	<p>Development of a MCT Based Virtual Testing Tool for Progressive Damage Predictions of Composite Plates Subjected to Hydromat Test</p> <p>Key, C. T.*, Lua, J., Hess, P., Lopez-Anido, R.</p>		<p>Modeling of Blasting Processes in View of Fuzzy Randomness</p> <p>Moeller, B.*, Hoffmann, A., Liebscher, M.</p>	
<p>3:54</p>	<p>Bayesian Treatment of Expert Opinion in Earthquake Assessments</p> <p>Huyse, L.*, Gonzalez, S., Stamatakos, J., Thacker, B.</p>		<p>Uncertainty Management for Store Separation Using Belief Function Calculus</p> <p>Cary, A. *, Wesley, L.</p>	
<p>4:18</p>	<p>Uncertainty Quantification for Constitutive Models of Epoxy Potting Foam</p> <p>Hasselmann, T.*, Wathugala, G., Hinnerichs, T., O'Gorman, C., Urbina, A.</p>		<p>Finite Element Method for Problems with Interval Parameters</p> <p>Zhang, H., Muhanna, R.*</p>	
<p>4:42</p>	<p>Model Validation of Encapsulating Foam Model</p> <p>Urbina, A. *, Paez, T., Hinnerichs, T., O'Gorman, C., Hunter, P.</p>			
<p>5:06</p>	<p>Uncertainty Quantification for Dynamic Analysis of Bolted Joints</p> <p>Hasselmann, T.*, Wathugala, G. W., Paez, T., Urbina, A.</p>			

**Technical Program: Wednesday, July 28: 10:00 AM – 12:00 AM**

Time	Room: Ballroom A <b>Sampling and Simulation Methods</b>  Session Chairs: Deodatis, G., Naess, A.	Room: Ballroom B <b>Uncertainty in the Characterization and Analysis of Jointed Structures</b>  Session Chair: Segalman, D., Slater, J.	Room: Ballroom C <b>Uncertainty Quantification of PDE's</b>  Session Chairs: Soize, C., Red-Horse, J.	Room: Ballroom F
24 Min. Talks (* Speaker)	Optimal Representations of Stochastic Processes  Red-Horse, J.*, Ghanem, R.	Investigation of Frictional Contact Parameters on Noise and Vibration in Mechanical System: Contact Damping  Abdo, J.*	Analysis and Application of PDEs with Uncertainty: the Worst-Case Scenario  Babuska, I., Nobile, F.*, Tempone, R.	
10:00	Evaluating Sampling Designs for Detection and Estimation in Spatial Fields  McKenna, S.*	Failure Modes of Unstiffened and Stiffened Extended Shear Tab Steel Connections  Mahamid, M.*, Rahman, A., Ghorbanpoor, A.	Time Dependent Partial Differential Equations with Uncertainty: the Stochastic Case  Babuska, I., Nobile, F., Tempone, R.*	
10:24	The Use of Discrete Probability Distributions to Obtain Low Probability Event Estimates  Kurth, R.*	Calibration and Variability of Hysteretic Models for a Single Bolted Lap-Joint  Page, S., Shiryayev, O., Slater, J.*, Pettit, C.	Transient Transport Equations for Energy Propagation in Visco-Elastic Structures Impacted by Shocks  Savin, E.*	
10:48	A Monte Carlo Approach to Sampling-Frequency Optimization and its Application to Pipeline Inspection  Carrasco, C.*, Ferregut, C., Warke, R., Thacker, B.,	Probabilistic Modeling of Mechanical Joint Restoring Force Based on Experimental Measurements  Hunter, N., Paez, T.*	Error Analysis of Composite Shock Interaction Problems  Glimm, J., Lee, T., Li, X., Yu, Y.*, Ye, K., Zhao, M.	
11:12	Presentation of Two Methods for Computing the Response Coefficients in Stochastic Finite Element Analysis  Berveiller, M.*, Sudret, B., Lemaire, M.	Uncertainty in Parameterizing Experimental Joint Data  Paez, T., Urbina, A.*, Segalman, D.	Non Gaussian Matrix-Valued Random Fields for Nonparametric Probabilistic Modeling of Elliptic Stochastic Partial Differential Operators  Soize, C.*	
11:36				

**Technical Program: Wednesday, July 28: 10:00 AM – 12:00 AM**

Time  24 Min. Talks  (* Speaker)	Room: Ballroom G  <b>Uncertainty Quantification Using Response Surfaces</b>  Session Chairs: Igusa, T., Agarwal, H.	Room: Ballroom H  <b>Bridge Maintenance, Safety and Reliability</b>  Session Chairs: Raphael, W., Faber, M.	Room: Turquoise	
10:00	Uncertainty Quantification Using Response Surface Approximations  Giunta, A. *, Eldred, M. , Castro, J.	Aspects of Sustainability in Engineering Decision Analysis  Faber, M. H. *, Nishijima, K.		
10:24	Role of Computational Learning in Model Calibration  Igusa, T. *	Reliability of Reinforced Concrete Bridge Decks Under Compressive Membrane Action  Karimi, A. *, Ramachandran, K., Buenfeld, N.		
10:48	Response Surface Characterization Using Discrepancy Sensitivity  Johnson, E. A. *, Wojtkiewicz, S. F.	Dynamic Progressive Failure of Bridges  Banerjee, S. *, Shinozuka, M.		
11:12	A Design and Analysis of Experiments Approach for Parametric Studies of Penetration Events  Marin, E. *, Chiesa, M., Booker, P.	Tacoma Narrows Bridge: A Case Study  Issa, C. *, Kassaa, P.		
11:36	Evaluation of Nonuniform Centroidal Voronoi Tessellation for Statistical Sampling  Romero, V. *, Burkhardt, J., Gunzburger, M. , Peterson, J.	A New Approach for Creep Prediction of Prestressed Concrete Bridges Using Reliability Based Assessment  Raphael, W. *, Mohamed, A. , Mosalam, K., Calgaro, J.		